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(54)

HANDLING OF VARIABLE AND UNPREDICTABLE GAS COMPOSITION CHANGES TO MAXIMIZE HEALTH AND PERFORMANCE OF FUEL CELL SYSTEMS

(57) A disclosed fuel cell system includes a fuel inlet that receives a fuel gas from a fuel source, a gas analyzer that determines a composition of the fuel gas received by the fuel inlet, and a stack including fuel cells that generate electricity using the fuel gas received from the fuel source. The fuel cell system further includes a controller that controls at least one of a fuel utilization of the stack, a current generated by the stack, or a voltage generated by the stack, based on the composition of the primary fuel gas determined by the gas analyzer. The controller may control the fuel cell system by increasing or decreasing a fuel flow rate to thereby increase or decrease the voltage generated by the stack to maintain a predetermined target voltage or to maintain a predetermined rate at which usable fuel is supplied to the stack based on

composition.

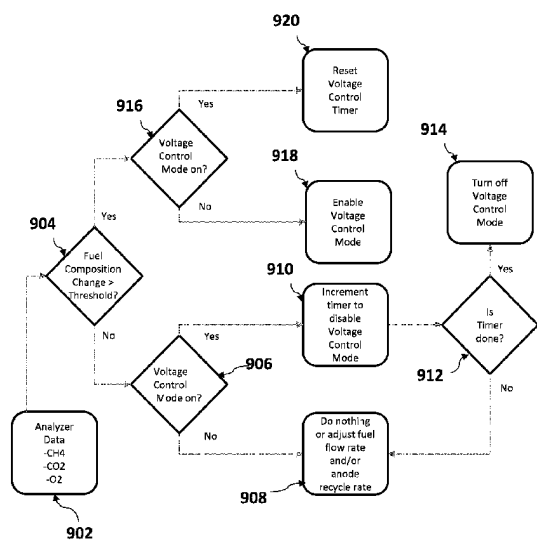


FIG. 9

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The present search report has been drawn up for all claims			
Place of search <b>Munich</b>		Date of completion of the search <b>17 May 2024</b>	Examiner <b>Brune, Markus</b>
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